

The study examines the monocentric epidemiological data of patients with hip fractures from 1997-2007. Adult patients treated for hip fracture between the years 1997-2007 were included in the study. Retrospective statistical assessment of continually gathered data focused on epidemiology and demographics. The second part of the study was concerned on risk factors on protrusion of hemiarthroplasty into the acetabulum. The goal was to specify exact indication, proper operative technique and selection of the implant.

The study involved 3 683 patients (2 678 women, 1 005 men). Patients older than 70 years accounted for 82 % of all cases. There was an increase in the number of hip fractures resulting in a significant increase in pertrochanteric fractures (AO-31A1+2) ($p < 0.001$). The ratio of trochanteric to neck hip fractures increased from 0.99 to 1.53. Continual monitoring of patients with hip fracture offers data which allows comparisons between regions and countries. The importance of a continual increase in the number of hip fractures has its importance in macroeconomical planning in traumatology.

Hemiarthroplasty was converted to total hip arthroplasty in 12 patients in our department. The indication, time period to conversion and hemiarthroplasty position were retrospectively assessed. The direction of protrusion to the pelvis was studied on the x-ray superposition method. The pain was the main indication in group I with early revision (mean 22 months). In group II with late revision (mean 68 months) pain was always connected with severe acetabular protrusion. Three directions of migration were identified: proximomedial, medial and proximolateral. The type of migration depended on the level of prostheses head to the greater trochanter, on the CE angle and on the stem position in the femoral canal. A new, biomechanically preferable implant was developed as the result of the study.